

**Supplementary Table S1: Odds Ratio (OR) and 95% confidence interval (CI) of colorectal cancer by red blood cell fatty acid composition, excluding cases within first two years of follow-up**

Fatty acids		Quintiles					Continuous variable, per 1 mol% increment	
		Q1	Q2	Q3	Q4	Q5	OR (95% CI)	p trend <sup>s</sup>
<b>Saturated fatty acids (SFA)</b>								
C14:0	Range	0.07 - 0.31	0.31 - 0.38	0.38 - 0.43	0.43 - 0.50	0.50 - 1.65		
	Cases/Controls (n)	131 / 150	183 / 167	148 / 169	174 / 160	176 / 166		
	OR, adjusted	1.00 (ref.)	1.26 (0.89; 1.79)	1.01 (0.69; 1.47)	1.25 (0.85; 1.83)	1.23 (0.85; 1.78)	1.28 (0.52; 3.17)	0.589
C16:0	Range	17.81 - 20.49	20.49 - 20.96	20.96 - 21.38	21.38 - 21.87	21.87 - 30.40		
	Cases/Controls (n)	138 / 150	169 / 164	180 / 166	157 / 156	168 / 176		
	OR, adjusted	1.00 (ref.)	1.03 (0.74; 1.44)	1.13 (0.80; 1.59)	0.98 (0.69; 1.40)	0.91 (0.62; 1.32)	0.93 (0.81; 1.07)	0.343
C18:0	Range	10.03 - 13.52	13.52 - 13.86	13.86 - 14.18	14.18 - 14.57	14.57 - 18.17		
	Cases/Controls (n)	154 / 172	144 / 157	186 / 165	151 / 172	177 / 146		
	OR, adjusted	1.00 (ref.)	1.07 (0.77; 1.49)	1.33 (0.97; 1.84)	1.06 (0.76; 1.48)	1.51 (1.07; 2.14)	1.25 (1.06; 1.46)	0.007
SFA, total <sup>a</sup>	Range	35.71 - 40.24	40.24 - 40.99	40.99 - 41.70	41.70 - 42.54	42.55 - 55.18		
	Cases/Controls (n)	157 / 162	157 / 171	150 / 157	173 / 161	175 / 161		
	OR, adjusted	1.00 (ref.)	0.98 (0.69; 1.38)	1.03 (0.70; 1.52)	1.19 (0.78; 1.79)	1.29 (0.81; 2.05)	1.07 (0.96; 1.19)	0.221
<b>Odd-chain fatty acids (OCFA)</b>								
C15:0	Range	0.03 - 0.26	0.26 - 0.33	0.33 - 0.39	0.39 - 0.50	0.50 - 1.20		
	Cases/Controls (n)	168 / 148	160 / 171	139 / 162	181 / 166	164 / 165		
	OR, adjusted	1.00 (ref.)	0.78 (0.55; 1.12)	0.71 (0.48; 1.05)	0.96 (0.64; 1.43)	0.92 (0.58; 1.44)	0.89 (0.30; 2.63)	0.834
C17:0	Range	0.07 - 0.30	0.30 - 0.34	0.34 - 0.37	0.37 - 0.41	0.41 - 0.60		
	Cases/Controls (n)	175 / 163	172 / 165	182 / 168	155 / 156	128 / 160		
	OR, adjusted	1.00 (ref.)	1.00 (0.72; 1.37)	1.06 (0.76; 1.47)	0.92 (0.65; 1.30)	0.77 (0.54; 1.10)	0.52 (0.30; 0.91)§	0.023§

OCFA, total <sup>e</sup>	Range	0.18 - 0.58	0.59 - 0.69	0.69 - 0.78	0.78 - 0.89	0.89 - 1.47		
	Cases/Controls (n)	167 / 156	175 / 162	157 / 165	156 / 168	157 / 161		
	OR, adjusted	1.00 (ref.)	1.05 (0.75; 1.47)	0.90 (0.62; 1.30)	0.85 (0.58; 1.25)	0.85 (0.56; 1.32)	0.60 (0.27; 1.36)	0.221
<b>Monounsaturated fatty acids (MUFA)</b>								
C16:1n7c	Range	0.05 - 0.35	0.35 - 0.44	0.44 - 0.52	0.52 - 0.62	0.62 - 2.74		
	Cases/Controls (n)	174 / 147	170 / 161	173 / 163	153 / 161	182 / 180		
	OR, adjusted	1.00 (ref.)	1.09 (0.78; 1.52)	1.09 (0.77; 1.56)	0.98 (0.68; 1.43)	0.99 (0.67; 1.46)	0.85 (0.49; 1.49)	0.575
C18:1n9c	Range	9.08 - 11.63	11.63 - 12.31	12.31 - 12.94	12.94 - 13.72	13.73 - 22.46		
	Cases/Controls (n)	142 / 148	179 / 157	179 / 169	148 / 171	164 / 167		
	OR, adjusted	1.00 (ref.)	1.18 (0.85; 1.65)	1.15 (0.82; 1.62)	0.91 (0.64; 1.30)	1.01 (0.70; 1.44)	0.99 (0.90; 1.08)	0.805
C18:1n7t+n9t <sup>+</sup>	Range	0.00 - 0.41	0.41 - 0.50	0.50 - 0.59	0.59 - 0.74	0.74 - 2.46		
	Cases/Controls (n)	181 / 156	162 / 157	145 / 161	169 / 171	153 / 167		
	OR, adjusted	1.00 (ref.)	0.93 (0.67; 1.28)	0.77 (0.55; 1.09)	0.80 (0.55; 1.15)	0.74 (0.49; 1.13)	0.66 (0.36; 1.20)	0.174
MUFA, total <sup>b</sup>	Range	13.11 - 16.92	16.92 - 17.71	17.72 - 18.41	18.41 - 19.30	19.30 - 27.87		
	Cases/Controls (n)	173 / 151	152 / 163	143 / 165	169 / 171	175 / 162		
	OR, adjusted	1.00 (ref.)	0.84 (0.60; 1.16)	0.73 (0.51; 1.03)	0.85 (0.59; 1.22)	0.93 (0.64; 1.36)	0.97 (0.90; 1.05)	0.471
<b>n-6 Polyunsaturated fatty acids (n-6 PUFA)</b>								
C18:2n6c	Range	6.56 - 9.48	9.48 - 10.24	10.25 - 10.93	10.93 - 12.00	12.00 - 18.25		
	Cases/Controls (n)	165 / 158	149 / 160	166 / 171	172 / 169	160 / 154		
	OR, adjusted	1.00 (ref.)	1.00 (0.72; 1.39)	1.00 (0.72; 1.38)	1.08 (0.77; 1.52)	1.14 (0.78; 1.65)	1.02 (0.95; 1.10)	0.628
C20:3n6	Range	0.07 - 1.33	1.33 - 1.49	1.49 - 1.65	1.65 - 1.86	1.86 - 3.41		
	Cases/Controls (n)	160 / 168	162 / 159	167 / 160	160 / 162	163 / 163		
	OR, adjusted	1.00 (ref.)	1.07 (0.78; 1.48)	1.04 (0.76; 1.44)	1.00 (0.72; 1.38)	1.00 (0.72; 1.39)	0.98 (0.72; 1.33)	0.888
C20:4n6	Range	3.87 - 11.86	11.86 - 12.72	12.72 - 13.47	13.47 - 14.39	14.39 - 17.45		
	Cases/Controls (n)	134 / 156	177 / 172	196 / 167	154 / 157	151 / 160		

C22:4n6	OR, adjusted	1.00 (ref.)	1.18 (0.85; 1.64)	1.50 (1.05; 2.13)	1.23 (0.84; 1.79)	1.13 (0.76; 1.69)	2.17 (0.72; 6.50)§	0.168§
	Range	0.68 - 2.04	2.04 - 2.37	2.37 - 2.70	2.71 - 3.15	3.15 - 8.54		
	Cases/Controls (n)	142 / 163	161 / 168	170 / 158	178 / 157	161 / 166		
n-6 PUFA, total <sup>c</sup>	OR, adjusted	1.00 (ref.)	1.10 (0.79; 1.52)	1.32 (0.93; 1.86)	1.37 (0.97; 1.95)	1.21 (0.83; 1.76)	1.18 (0.98; 1.42)	0.083
	Range	14.94 - 26.24	26.25 - 27.58	27.58 - 29.02	29.02 - 30.45	30.46 - 37.73		
	Cases/Controls (n)	149 / 158	154 / 174	189 / 164	149 / 156	171 / 160		
	OR, adjusted	1.00 (ref.)	1.04 (0.75; 1.44)	1.39 (0.98; 1.96)	1.15 (0.80; 1.67)	1.34 (0.90; 2.01)	2.84 (0.67; 12.01)§	0.157§
<b>n-3 Polyunsaturated fatty acids (n-3 PUFA)</b>								
C18:3n3	Range	0.00 - 0.07	0.07 - 0.11	0.11 - 0.15	0.15 - 0.20	0.20 - 1.38		
	Cases/Controls (n)	142 / 151	164 / 152	169 / 169	172 / 170	164 / 170		
C20:5n3	OR, adjusted	1.00 (ref.)	1.07 (0.77; 1.50)	1.02 (0.71; 1.47)	1.03 (0.71; 1.51)	1.00 (0.67; 1.50)	1.17 (0.31; 4.45)	0.821
	Range	0.10 - 0.66	0.66 - 0.90	0.90 - 1.13	1.13 - 1.48	1.48 - 5.82		
	Cases/Controls (n)	168 / 153	183 / 158	153 / 171	152 / 164	156 / 166		
C22:5n3	OR, adjusted	1.00 (ref.)	1.03 (0.75; 1.41)	0.72 (0.51; 1.03)	0.71 (0.49; 1.05)	0.74 (0.50; 1.09)	0.79 (0.63; 0.99)	0.037
	Range	0.64 - 2.11	2.11 - 2.38	2.39 - 2.58	2.58 - 2.79	2.79 - 5.71		
	Cases/Controls (n)	163 / 157	159 / 160	148 / 154	168 / 160	174 / 181		
C22:6n3	OR, adjusted	1.00 (ref.)	0.87 (0.59; 1.27)	0.89 (0.60; 1.33)	0.94 (0.62; 1.42)	0.87 (0.57; 1.33)	0.90 (0.65; 1.23)	0.500
	Range	1.34 - 4.85	4.86 - 5.56	5.56 - 6.18	6.18 - 6.92	6.92 - 10.55		
	Cases/Controls (n)	179 / 167	183 / 161	155 / 164	146 / 159	149 / 161		
n-3 PUFA, total <sup>d</sup>	OR, adjusted	1.00 (ref.)	0.97 (0.71; 1.32)	0.77 (0.55; 1.07)	0.76 (0.55; 1.07)	0.75 (0.52; 1.09)	0.70 (0.40; 1.21)§	0.199§
	Range	2.33 - 8.14	8.14 - 9.04	9.04 - 9.94	9.94 - 10.99	10.99 - 18.69		
	Cases/Controls (n)	181 / 160	173 / 168	154 / 152	140 / 170	164 / 162		
	OR, adjusted	1.00 (ref.)	0.87 (0.64; 1.19)	0.77 (0.55; 1.09)	0.61 (0.42; 0.89)	0.82 (0.56; 1.20)	0.94 (0.88; 1.01)	0.076

<sup>a</sup> sum of C14:0, C16:0, C18:0, C20:0; <sup>b</sup> sum of C16:1n7c, C18:1n9c, C18:1n7c, C20:1n9c; <sup>c</sup> sum of C18:2n6c, C18:3n6, C20:2n6, C20:3n6, C20:4n6, C22:4n6; <sup>d</sup> sum of C18:3n3, C20:5n3, C22:5n3, C22:6n3; <sup>e</sup> sum of C15:0, C17:0; § log-transformed; \* Sum of vaccenic acid and elaidic acid; § Wald test statistics; OR, adjusted ‡ conditional logistic regression adjusted for BMI, smoking status, education, physical activity, alcohol intake, history of diabetes, and season of blood collection